

Smoking Cessation, continued

CONCLUSION: Stimulation and habit are neither frequent factors of smoking dependency nor the factors with the high level of smoking addiction in young people.

CLINICAL IMPLICATIONS: The subject study was performed on the young people having not been smoking for many years. These results may help them to give up smoking as well as to find the best way to do it.

DISCLOSURE: Marija Mitic Milikic, None.

EFFICACY OF A COUNTY GOVERNMENT EMPLOYEE BENEFITS SMOKING CESSATION PROGRAM UTILIZING AN ANTI-CHOLINERGIC INTRAMUSCULAR INJECTION COMBINED WITH COUNSELING

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PURPOSE: To evaluate the efficacy of a county government employee benefits smoking cessation program utilizing counseling and an anticholinergic intramuscular injection.

METHODS: Between January 1 and April 1, 2005 forty-five Sarasota county government employees enrolled in a smoking cessation program utilizing an anticholinergic intramuscular injection comprised of scopolamine and hydroxyzine in conjunction with a dedicated counseling program. Patients were supplied with a educational video and booklet at least one week prior to their office visit. They were also assigned a series of "homework" projects to be accomplished prior to their office visit. On the day of the office visit, they participated in group counseling lead by a physician followed by individual counseling and an intramuscular injection of scopolamine and hydroxyzine followed by 10 days of scopolamine based oral medication. The patients also received telephone counseling by the physician and trained counselors including a psychologist for as long as deemed necessary.

RESULTS: One month success rates were compiled from patient follow up telephone calls and confirmed by independent postcard evaluations returned to the Sarasota county wellness development advisor. At the end of one month, 34 of 45 patients (76%) were still smoke free. This is in concordance with our previously reported data of an 80% success rate using this method. It is also consistent with our unpublished data of over 500 patients which has yielded a 75% 1 month quit rate.

CONCLUSION: A smoking cessation program utilizing an intramuscular injection of scopolamine and hydroxyzine in combination with counseling and close follow up can be extremely effective when added to a governmental employee benefits program.

CLINICAL IMPLICATIONS: By October 2005 we will be able to present independently verified 1 month smoking cessation data on over 100 Sarasota county employees as well as six month data on these 45 employees. We will also be able to present safety and efficacy data on over 1000 patients and six month follow up data on over 500 patients treated at our clinic.

DISCLOSURE: Kirk Voelker, Shareholder American Medical Innovations Stop Smoking Clinics; Product/procedure/technique that is considered research and is NOT yet approved for any purpose. Scopolamine and Hydroxyzine are not FDA approved for smoking cessation.

THE KANO TEST FOR SOCIAL NICOTINE DEPENDENCE (KTSND) IN SAMPLES FROM A PHARMACEUTICAL COMPANY

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PURPOSE: A smoking habit is maintained by psychological and physical dependence. We developed a new concept, in regard to social nicotine dependence, which is a part of psychological dependence, and made a new questionnaire, namely, "The Kano Test for Social Nicotine Dependence (KTSND)". The KTSND has ten questions with a total score of 30. In order to investigate the validity of the KTSND, we applied it to pharmaceutical company employees.

METHODS: We delivered the KTSND to a pharmaceutical company and received answers from 214 respondents. They consisted of 53 current smokers, 49 ex-smokers, and 112 non-smokers.

RESULTS: Total scores of the KTSND were 18.62 ± 5.60 , 15.00 ± 6.01 , and 12.25 ± 5.73 in current smokers, ex-smokers, and non-smokers respectively. In regard to the subject matter of the questions, that is, "Tobacco is one of life's pleasures", "Smokers' lifestyles may be respected", "Smoking sometimes enriches people's life", "Tobacco has positive physical or mental effects", "Tobacco has effects to release stress",

"Tobacco enhances the function of smokers' brains", "Doctors exaggerate the ill effects of smoking", and "People can smoke at the place where ashtrays are available", current smokers tended to answer positively ($p < 0.05$). To the question regarding "Smoking itself is a disease", current smokers answered negatively ($p < 0.05$). There was no significant difference among the three groups to the question concerning "Tobacco is a part of culture".

CONCLUSION: From the results of the KTSND, we found there was a significant difference between current smokers and ex/non-smokers on social recognition and attitude to smoking.

CLINICAL IMPLICATIONS: The KTSND has good possibilities to play a complementary role vis-à-vis the FTND.

DISCLOSURE: Chiharu Yoshii, None.

Testing Respiratory Function and Mechanics

12:30 PM - 2:00 PM

INSPIRATORY RESISTIVE LOAD-INDUCED MODIFICATION OF TROPONIN T IN RAT DIAPHRAGM

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PURPOSE: Although the development of respiratory muscle fatigue has been well documented, its molecular basis is poorly understood. We wished to characterize the development of fatigue in rats subjected to severe inspiratory resistive loading (IRL) and identify IRL-induced changes to the diaphragmatic myofilament proteome. We hypothesized that inspiratory resistive loading (IRL) would elicit diaphragmatic fatigue (a decrease in the ratio of transdiaphragmatic pressure to integrated phrenic; Pdi/fPhr) due, in part, to modifications to myofilament proteins.

METHODS: We subjected 14 spontaneously breathing anesthetized rats to IRL until pump failure (decreased pressure generation) at which point we terminated the load and harvested diaphragmatic tissue for proteomic analysis.

RESULTS: IRL elicited a rapid (~ 2 min) decrease in Pdi/fPhr which plateaued until a later decrease at ~ 42 min; this was followed by central failure (decreased minute phrenic activity) and pump failure at ~ 44 min. One-dimensional western blot analysis of myofilament proteins indicated changes only to the fast isoforms of troponin T (TnT), particularly a loss of the dominant isoforms of type IIB fibers. In western blots of serum taken before and during IRL, we detected the presence of only the fast, not slow, isoform of troponin I, confirming damage to fast-twitch fibers. In addition, differential antibody immunoreactivity revealed an altered affinity to the other fast TnT isoforms, indicating the presence of a post-translational modification.

CONCLUSION: These results demonstrate for the first time that type IIB fibers are preferentially injured during inspiratory resistive loading and that TnT, a key contractile protein, is modified in the diaphragms of rats subjected to IRL. The exact nature of this modification remains to be determined but likely plays an important role in the development of fatigue.

CLINICAL IMPLICATIONS: Our results suggest that fatigue and injury to fast fatigable fibers alone is sufficient to cause respiratory pump failure.

DISCLOSURE: Jeremy Simpson, University grant monies Wm. M. Spear Foundation (funds bequested to Queen's University for respiratory-related research); Block Term Grant (funds awarded to Queen's University from the Ontario Thoracic Society for respiratory-related research); Grant monies (from sources other than industry) Canadian Institutes for Health Research and Ontario Thoracic Society.

THE CARDIOPULMONARY EFFECTS OF A CANNABINOID 1 RECEPTOR (CB1) AGONIST IS MEDIATED BY THE TRANSCIENT RECEPTOR POTENTIAL VANILLOID 1 (TRPV1) CHANNEL

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PURPOSE: Anandamide (AEA), a cannabinoid 1 receptor (CB1) agonist, has been suggested to be involved in the pathogenesis of